1646

PATENT Case No. 20430P

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Petrukhin et al.

Serial No. 09/937,499

Filed: February 7, 2002

For: Novel Human Voltage-Gated Potassium Channel

Art Unit: 1646

Examiner: _____

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97

Sir:

1. In compliance with 37 C.F.R. 1.97, submitted on the attached form herewith is a list of patents, publications or other information which are requested to be made of record in this application. This Information Disclosure Statement is not an admission that any patent, publication or other information referred to herein is "prior art" for this invention. In accordance with 37 C.F.R. 1.97(h), the filing of this Information Disclosure Statement shall not be construed to be an admission that the information cited in the Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. 1.56(b).

2. In accordance with 37 C.F.R. 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made.

3. Applicants respectfully request that the Examiner initial the attached form after reviewing the pertinence of each reference.

4. Pursuant to 37 C.F.R. 1.98 (a)(2)(ii), copies of each cited U.S. patent and each U.S. patent application publication are not enclosed herewith.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on the date appearing below.

MERCK & CO., INC.

By Terri Schiffmacher Date 8/1/05

PATENT Case No. 20430P

INFORMATION DISCLOSURE STATEMENT

5. Pursuant to 37 C.F.R. 1.98(d), copies of references listed on the attached form that were submitted to or cited by the Office in a related application upon which the instant application relies for an earlier filing date under 35 U.S.C. 120 are not enclosed. Related application(s) in which references were submitted to or cited by the Office are as follows:

	RELATED APPLICATION	
U. S. SERIAL NUMBER	FILING DATE	MERCK CASE

If this is inconvenient, additional copies will be submitted upon request.

6. In accordance with 37 C.F.R. 1.97, (check one)

☐ the attached information is filed within three months of the filing date of the captioned case.

☑ the attached information is filed more than three months after the filing date but prior to the mailing of a first Office Action on the merits.

☐ the attached information is being filed more than three months after the filing date and after the mailing of a first Office Action on the merits, but before the mailing date of a Final Action or Notice of Allowance. The enclosed authorization is therefore given to charge Deposit Account No. 13-2755 for the fee required under 37 C.F.R. 1.17(p).

☐ the undersigned certifies that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Statement.

☐ the undersigned certifies that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, was known to any individual designated under 37 C.F.R. 1.56(c) more than three months prior to the filing of this Statement.

Respectfully submitted,

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Date: August 1, 2005

Approved for use through 7/31/2006. OMB 0651-0031
SUBSTITUTE for PTO/SB/08A (07-05), Information Disclosure Statement by Applicant
Patent and Trademark Office; U.S DEPARTMENT OF COMMERCE

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 4

COMPLETE IF KNOWN	
Application Number	09/937,499
Filing Date	February 7, 2002
First Named Inventor	Konstantin Petrukhin
Group Art Unit	1646
Examiner Name	
Attorney Docket Number	20430P

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.	U.S. Patent Document Number	Kind Code *(if known)*	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
	A	5,661,035		Tsien et al.	08/26/1977

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.	Foreign Patent Document Office	Number	Kind Code *(if known)*	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY

Examiner Signature		Date Considered	

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Sheet 2 of 4

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Application Number	09/937,499
Filing Date	February 7, 2002
First Named Inventor	Konstantin Petrukhin
Group Art Unit	1646
Examiner Name	
Attorney Docket Number	20430P

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.	Include name of the author, title, date, page(s), volume-issue number(s) and place of publication.
	B	Brian Robertson, "The real life of voltage-gated K+ channels: more than model behaviour", Trends in Pharmacol. Sci., 18:474-483 (December 1997)
	C	Jan & Jan, "Voltage-gated and inwardly rectifying potassium channels", J. Physiology, 505.2:267-282 (1997)
	D	Catterall, A. W., "Structure & Function of Voltage-Gated Ion Channels, Annual Rev. Biochem., 64:493-531 (1995)
	E	Sullivan & Daiger, "Inherited retinal degeneration: exceptional genetic and clinical heterogeneity", Mol. Med. Today, 2:380-386 (September 1996)
	F	Evans et al., "Genetic linkage of cone-rod retinal dystrophy to chromosome 19q and evidence for segregation distortion", Nature Genetics, 6:210-213 (February 1994)
	G	Kelsell et al., "Localisation of a gene for dominant cone-rod dystrophy (CORD6) to chromosome 17P", Human Molecular Genetics, 6:597-600 (1997)
	H	Kelsell et al., "Localization of a Gene (CORD7) for a Dominant Cone-Rod Dystrophy to Chromosome 6q", Am. J. Hum. Genet., 63:274-279 (1998)
	I	Stone et al., "Clinical Features of a Stargardt-Like Dominant Progressive Macular Dystrophy With Genetic Linkage to Chromosome 6q", Arch Ophthalmol., 112:765-772 (June 1994)
	J	Nichols et al., "Butterfly-shaped pigment dystrophy of the fovea caused by a point mutation in codon 167 of the RDS gene", Nature, 3:202-207 (March 1993)
	K	Weleber et al., "Phenotypic Variation Including Retinitis Pigmentosa, Pattern Dystrophy, and Fundus Flavimaculatus in a Single Family With a Deletion of Codon 153 or 154 of the Peripherin/*RDS* Gene, Arch Ophthalmol., 111:1531-1542 (November 1993)
	L	Wells et al., "Mutations in the human retinal degeneration slow (*RDS*) gene can cause either retinitis pigmentosa or macular dystrophy", Nature Genet., 3:213-218 (March 1993)
	M	Reig et al., "A point mutation in the RDS-peripherin gene in a Spanish family with central areolar choroidal dystrophy", Ophthalmic Genetics, 16:39-44 (1995)
	N	Hyman et al., "Senile Macular Degeneration: A Case-Control Study", Am. J. Epidemiology, 118:213-227 (1983)
	O	J. Donald M. Gass, "Drusen and Disciform Macular Detachment and Degeneration", Arch Ophthalmol., 90:206-217 (September 1973)
	P	Leppanen et al., "A Physical Map of the 6q14-q15 Region Harboring the Locus for the Lysosomal Membrane Sialic Acid Transport Defect", Genomics, 37:62-67 (1996)

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Sheet	3	of	4

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First Named Inventor	Konstantin Petrukhin
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Attorney Docket Number	20430P

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.	Include name of the author, title, date, page(s), volume-issue number(s) and place of publication.
	Q	Biervert et al., "A Potassium Channel Mutation in Neonatal Human Epilepsy", Science, 279:403-406 (January 1998)
	R	Singh et al., "A novel potassium channel gene, *KCNQ2*, is mutated in an inherited epilepsy of newborns", Nature Genetics, 18:25-29 (January 1998)
	S	Schroeder et al., "Moderate loss of function of cyclic-AMP-modulated KCNQ2/KCNQ3 K+ channels causes epilepsy", Nature, 396:687-690 (December 1998)
	T	Kubisch et al., "KCNQ4, a Novel Potassium Channel Expressed in Sensory Outer Hair Cells, Is Mutated in Dominant Deafness", Cell, 96: 437-446 (February 1999)
	U	Splawski et al., "Molecular Basis of the Long-QT Syndrome Associated with Deafness", New England J. Medicine, 336:1562-1567 (May 1997)
	V	Wang et al., "KCNQ2 and KCNQ3 Potassium Channel Subunits: Molecular Correlates of the M-Channel", Science, 282:1890-1893 (December 1998)
	W	Shi et al., "β Subunits Promote K+ Channel Surface Expression through Effects Early in Biosynthesis", Neuron, 16:843-852 (April 1996)
	X	Watson et al., "Molecular Biology of the Gene", Fourth Edition, The Benjamin/Cummings Publishing Co., Inc., page 226 (1987)
	Y	Cunningham and Wells, "High-Resolution Epitope Mapping of hGH-Receptor Interactions by Alanine-Scanning Mutagenesis", Science, 244:1081-1085 (June 1989)
	Z	Ioannou et al., "A new bacteriophage P1-derived vector for the propagation of large human DNA fragments", Nature Genetics, 6:84-89 (January 1994)
	AA	Gonzalez and Tsien, "Improved indicators of cell membrane potential that use fluorescence resonance energy transfer", Chemistry & Biology, 4:269-277 (1997)
	BB	Gonzalez and Tsien, "Voltage Sensing by Fluorescence Resonance Energy Transfer in Single Cells", Biophysical Journal, 69:1272-1280 (October 1995)
	CC	John Hodgson, "Receptor Screening and the Search for New Pharmaceuticals", Bio/Technology, 10:973-980 (September 1992)
	DD	Hopp and Woods, "Prediction of protein antigenic determinants from amino acid sequences", Proc. Natl. Acad. Sci. USA, 78:3824-3828 (June 1981)

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 4 of 4

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NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.	Include name of the author, title, date, page(s), volume-issue number(s) and place of publication.
	EE	Jameson and Wolf, "The antigenic index: a novel algorithm for predicting antigenic determinants", CABIOS (Computer Applications in the Biosciences), 4:181-186 (1988)
	FF	Kohler and Milstein, "Continuous cultures of fused cells secreting antibody of predefined specificity", Nature, 256:495-497 (1975)
	GG	Thomas and Capecchi, "Site-Directed Mutagenesis by Gene Targeting in Mouse Embryo-Derived Stem Cells", Cell, 51:503-512 (November 1987)
	HH	Frohman and Martin, "Cut, Paste, and Save: New Approaches to Altering Specific Genes in Mice", Cell, 56:145-147 (January 1989)
	II	Mario R. Capecchi, "The New Mouse Genetics: Altering *the* Genome *by* Gene Targeting", Trends in Genetics, 5:70-76 (March 1989)
	JJ	Baribault and Kemler, "Embryonic Stem Cell Culture and Gene Targeting in Transgenic Mice", Mol. Biol. Med. 6:481-492 (1989)
	KK	Lin et al., "Recombination in mouse L cells between DNA introduced into cells and homologous chromosomal sequences", Proc. Natl. Acad. Sci. USA, 82:1391-1395 (March 1985)
	LL	Smithies et al., "Insertion of DNA sequences into the human chromosomal β-globin locus by homologous recombination", Nature, 317:230-234 (September 1985)
	MM	Thomas et al., "High Frequency Targeting of Genes to Specific Sites in the Mammalian Genome", Cell, 44:419-428 (February 1986)
	NN	Kim and Smithies, "Recombinant fragment assay for gene targeting based on the polymerase chain reaction", Nucleic Acids Research, IRL Press Ltd., Oxford, England, 16:8887-8903 (1988)
	OO	Kim et al., "Problems encountered in detecting a targeted gene by the polymerase chain reaction", Gene, 103:227-233 (1991)
	PP	Sedivy and Sharp, "Positive genetic selection for gene disruption in mammalian cells by homologous recombination", Proc. Natl. Acad. Sci. USA, 86:227-231 (January 1989)
	QQ	Mansour et al., "Disruption of the proto-oncogene *int*-2 in mouse embryo-derived stem cells: a general strategy for targeting mutations to non-selectable genes", Nature, 336:348-352 (November 1988)
	RR	Mario R. Capecchi, "Altering the Genome by Homologous Recombination", Science, 244:1288-1292 (June 1989)

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